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## Cycle smarts

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Bicycling continues to gain widespread acceptance as a viable form of transportation. Whether you cycle to save money, reduce your carbon footprint or improve your physical fitness, safety is always a primary concern. Do you know the rules of the road and use smart cycling tactics to bike safely and legally?

As a league cycling instructor, I teach cyclists tips, tools and techniques to help them ride more confidently. There are, however, a number of cyclists and motorists who are misinformed about how to bicycle safely, and I'd like to clear up some of the misconceptions.

In my courses, the most common fear riders express is getting hit by a car and, further, being struck from behind. A quick look at bicycle crash statistics provides two amazing insights that can help dispel cyclist's fears of being involved in a vehicle collision.

First, the largest cause of bicycle crashes is falling off the bicycle. Half of the bicycle crashes involve falls, while less than 20 percent involve motor vehicles. In fact, collisions with pedestrians, animals and other bicycles are twice as likely as a collision with a motor vehicle. Second, crash studies show that only about 5 percent of bicycle crashes with motor vehicles involve the cyclist getting hit from behind. Most collisions — more than 85 percent — involve crossing traffic. Either the bicycle pulls in front of the car or the car pulls in front of the bicycle.

Since the consequence of any bicycle crash, from falling in the driveway to getting hit head-on by a motorist, can result in serious injury or death, bicycle safety must focus on reducing the probability of a collision. Cycling safety is not intuitive; what feels safe and what is safe are not necessarily the same. Also, there are times when what is safe is not comfortable, and most cyclists try to avoid these conditions.

What controls can a cyclist implement to reduce the likelihood of a collision? The concept that reduces crash risk the most is called vehicular cycling. John Forester, in his book "Effective Cycling," said it best, "Bicyclists fare best when they act and are treated as drivers of vehicles." Basically, a bicycle should be operated with the same rules and responsibilities as any motor vehicle. Segregating bicycles from motor vehicle traffic makes cyclists less visible to motorists, thus increasing the risk of a crash. Visibility for a cyclist is not only what they wear, but also where they cycle.

Traffic law defines the cyclist's position as "as far right as practicable." This causes considerable confusion. This does not mean "as far right as possible." The right one third of the right-most lane is a good starting point, but may change further left or right depending on the circumstances.

On roads that are not wide enough for a cyclist and motorist to share a lane, cyclists should use the full lane. Most cyclists want to get out of the way of traffic; however, in this case, moving farther into traffic reduces the crash risk. Most bicycle crashes with motorists traveling the same direction do not involve getting hit from behind, but hit from the side by the right rear quarter panel. When cyclists ride too far to the right, they invite

motorists to try and “squeeze by” when there isn’t sufficient room. Using the full lane reduces this risk by making motorists pass them as they would any other vehicle — in the next lane

If traffic is backed up, a courteous cyclist will pull completely off the road and stop while motorists go by. Once the road is clear, the cyclist can continue. Motorists should not expect cyclists to move as far right as possible while still moving.

Many motorists feel bicycles should be on sidewalks because they impede traffic, but riding on sidewalks increases a cyclist’s risk of a collision with a motor vehicle between two to four times. At every intersection where a sidewalk crosses the road, there is a higher probability of a crash with the cyclist on the sidewalk, where the motorist is not looking, compared to cycling in the roadway with traffic.

Shoulders can be a viable facility for cyclists. However, debris, which can cause a fall, becomes a significant issue when cycling on shoulders. Cyclists must assess if the increased risk from the debris outweighs the risk of cycling in the road with traffic. Shoulders should not be used on steep descents since cyclists are capable of reaching the same speed as motorists. Shoulders with too many intersections, or where the shoulder turns into a right-turn-only lane, also should not be used due to the risk of collision that can occur if cyclists continue straight through the turn lane when motorists expect them to turn right.

Bike lanes are essentially a shoulder with additional paint. A common motorist-caused crash is called a “right hook,” where the motorist cuts off the cyclist by turning right across the bike lane. Cyclists also cause crashes by turning left from the bike lane. They don’t realize they should merge to the left and turn like a motorist.

Another common cause of bicycle/motorist collisions is cycling without lights at night and in low-light conditions. Many times, a motorist’s headlights do not illuminate the bicycle reflectors until just before a collision, so bicycle headlights and taillights, which can be visible for miles, are the best solution. Headlights are required by law and taillights are highly recommended. The up and down motion of bicycle pedals is readily recognizable and the use of pedal reflectors, reflective tape or a reflective leg band all increase cyclist visibility.

There isn’t enough space to go over all aspects of bicycle safety. There are many more specifics with regard to road position, but I’ve hit the major highlights. Properly fitted helmets and bicycle inspections are also important safety issues. Cyclists must assess risks based on the time of day and road, traffic and weather conditions. Knowing potential hazards and implementing the proper controls are the keys to riding confidently and, most important, safely.

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